In the Claims

1 (currently amended). A purified or recombinant Lipolysis Stimulated Receptor, wherein said receptor comprises a polypeptide having at least 90% homology to the polypeptide of SEQ ID NO: 8 and wherein said polypeptide has at least one biological activity selected from the group consisting of fatty acid binding, clathrin binding~~, a transport signal,~~ leptin binding, ~~a RSRS motif~~ and lipoprotein binding.

2 (previously presented). A purified or recombinant Lipolysis Stimulated Receptor that a) comprises the amino acid sequence of SEQ ID NO:8; or b) consists of the amino acid sequence of SEQ ID NO:8.

3-9 (canceled).

10 (previously presented). The purified or recombinant receptor of claim 2, wherein said receptor comprises the amino acid sequence of SEQ ID NO:8.

11 (previously presented). The purified or recombinant receptor of claim 2, wherein said receptor consists of the amino acid sequence of SEQ ID NO:8.

12 (previously presented). An isolated or recombinant biologically active polypeptide fragment of SEQ ID NO: 8, said fragment comprising an amino acid sequence selected from the group consisting of:

a) an amino acid sequence spanning amino acids 76 to 94 of SEQ ID NO:8;

b) an amino acid sequence spanning amino acids 76 to 160 of SEQ ID NO:8;

c) an amino acid sequence spanning amino acids 76 to 237 of SEQ ID NO:8;

d) an amino acid sequence spanning amino acids 157 to 249 of SEQ ID NO:8;

e) an amino acid sequence spanning amino acids 236 to 530 of SEQ ID NO:8;

f) an amino acid sequence spanning amino acids 236 to 613 of SEQ ID NO: 8; and

g) an amino acid sequence spanning amino acids 76 to 613 of SEQ ID NO:8.

13-18 (canceled).

19 (original). The polypeptide of claim 10, wherein said polypeptide combines with one or more heterologous polypeptides to form an LSR receptor complex, and wherein said complex comprises an α subunit or an α' subunit, and at least one β subunit.

20 (original). The polypeptide of claim 19, wherein said complex comprises three β subunits.

21 (original). The polypeptide of claim 19, wherein said polypeptide is from a human, and wherein said polypeptide has a molecular weight of 64 kD.

22 (original). The polypeptide of claim 19, wherein said polypeptide is expressed in hepatic cells.

23 (original). The polypeptide of claim 19, wherein said complex has a biological activity selected from the group consisting of lipoprotein binding, lipoprotein internalization, and lipoprotein degradation.

24 (original). The polypeptide of claim 19, wherein said complex has a biological activity that is selected from the group consisting of leptin binding, leptin internalization, and leptin degradation.

25 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 12, wherein said polypeptide combines with one or more heterologous polypeptides to form an LSR receptor complex, and wherein said complex comprises an α subunit or an α' subunit, and at least one β subunit.

26 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 25, wherein said complex comprises three β subunits.

27 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 25, wherein said polypeptide is from a human, and wherein said polypeptide has a molecular weight of 64 kD.

28 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 25, wherein said polypeptide is expressed in hepatic cells.

29 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 25, wherein said complex has a biological activity selected from the group consisting of lipoprotein binding, lipoprotein internalization, and lipoprotein degradation.

30 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 25, wherein said complex has a biological activity that is selected from the group consisting of leptin binding, leptin internalization, and leptin degradation.

31 (currently amended). The polypeptide fragment ~~polypeptide~~ of claim 12, wherein said polypeptide is recombinant.

32 (original). A composition comprising the polypeptide of claim 10.

33 (original). A composition comprising the polypeptide of claim 12.

34 (original). The composition of claim 32, further comprising a physiologically acceptable carrier.

35 (original). The composition of claim 33, further comprising a physiologically acceptable carrier.

36-45 (canceled).

46 (previously presented). The isolated or recombinant biologically active polypeptide fragment of claim 12, said fragment comprising an amino acid sequence selected from the group consisting of:

a) an amino acid sequence spanning amino acids 76 to 94 of SEQ ID NO:8 that contains a fatty acid binding site;

b) an amino acid sequence spanning amino acids 76 to 160 of SEQ ID NO:8 that contains a fatty acid binding site and a clathrin binding site;

c) an amino acid sequence spanning amino acids 76 to 237 of SEQ ID NO:8 that contains a fatty acid binding site, a clathrin binding site and contains a transport signal;

d) an amino acid sequence spanning amino acids 157 to 249 of SEQ ID NO:8 that contains a clathrin binding site and contains a transport signal;

e) an amino acid sequence spanning amino acids 236 to 530 of SEQ ID NO:8 and that contains a transport signal, a leptin binding site and a RSRS motif;

f) an amino acid sequence spanning amino acids 236 to 613 of SEQ ID NO: 8 and that contains a transport signal, a leptin binding site, a RSRS motif, and a lipoprotein binding site; and

g) an amino acid sequence spanning amino acids 76 to 613 of SEQ ID NO:8 and that contains a fatty acid binding site, a clathrin binding site, contains a transport signal, contains a leptin binding site, contains an RSRS motif, and has a lipoprotein binding site.